

REMARKS

In the Office Action, claims 1-22 were rejected. By the present Response, claims 1, 6, 12 and 17 are amended. Upon entry of the amendments, claims 1-22 will remain pending in the present patent application. Reconsideration and allowance of all pending claims are requested.

Rejections Under 35 U.S.C. § 102

In the Office Action, claims 1, 6, 9-12, 14, 17, 18, 20 and 21 were rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 4,491,865 issued to Danna et al. (hereinafter "Danna"). All of these claims are believed to be clearly allowable over Danna for the reasons summarized below.

Applicants first note that the rejection under § 102(b) includes all of the independent claims 1, 6, 12 and 17. Moreover, each of these claims has been amended by the present response.

Claim 1 and the claims depending therefrom.

Claim 1 recites, *inter alia*, steps of assembling a detector and sealing the detector, followed by assembling the detector in a housing, and sealing the housing. The Examiner argued that Danna teaches a housing assembly 49 within which a detector is positioned. The reference actually describes item 49 as a tubular body. The Examiner goes on to identify various seals in the overall assembly. However, the Examiner's reasoning is not consistent with the actual teachings of Danna. In particular, Danna fails to teach the sealed detector and sealed housing recited in claim 1.

Danna does not teach sealing a detector and then sealing a housing in which the detector is assembled.

According to the Examiner's reasoning, tubular body 49 of Danna would correspond to the housing recited in claim 1. However, the claim requires that the

detector first be sealed prior to assembling the detector in the housing. As Danna clearly sets forth, a circuit board 80 is positioned within tubular body 49, and an elastomeric block 88 is positioned behind the circuit board. The elastomeric block presumably seals the rear side of the tubular body adjacent to the circuit board 80. The opposite side of the structure includes an epoxy seal 54 applied around an element labeled 70 in FIG. 2 but not called out specifically in the specification.

Consequently, if the tubular body 49 is the housing referred to in claim 1, no separate seal or sealing arrangement is provided for the detector itself in the Danna arrangement. That is, the circuit board 80 is necessarily sealed to and by virtue the housing, and not separately and prior to assembly in the housing. For this reason alone, the Danna reference cannot anticipate claim 1 or the claims depending therefrom.

Danna fails to teach sealing the housing on all sides thereof.

By the present response, claim 1 has been amended to more particularly point out and distinctly claim the sealing that is performed on the housing. As described in detail in the present specification, the housing in which the detector assembly is placed is sealed on all sides. In the arrangement of Danna, because the endoscope is configured to be inserted for imaging via the front end (i.e., to the right in the view of FIG. 2), no teaching whatsoever is provided regarding sealing on an opposite end of the endoscope. Indeed, from the teachings of Danna any such sealing would apparently be unnecessary and certainly not of concern. At the very least, the reference provides no teaching whatsoever for sealing tubular body 49 on an opposite side of the structure. Similarly, it is unclear from a reading of Danna how the front side of the structure is sealed at all. The reference describes item 53 shown in FIG. 2 as an opening or window. No seal appears to be provided on this side of the structure. That is, the tubular body 49 is apparently not sealed in certain locations, particularly on the rear side, and perhaps even on the front side.

Given these clear distinctions between the method of claim 1 and the teachings of Danna, the reference simply cannot support a *prima facie* case of anticipation of claim 1. The claims depending from claim 1 are believed to be equally patentable both for the subject matter they separately recite as well as by virtue of their dependency from an allowable base claim.

Claim 6 and the claims depending therefrom.

Independent claim 6 has been amended to correct inadvertent errors in the claim, and also to add that the protective layer recited in the claim surrounds exterior portions of the housing assembly to seal all sides thereof.

The Examiner did not address claim 6 with any specificity. Regarding any such protective layer, the Examiner pointed to elements 14, 51, 52 and 54, visible in FIG. 2 of the reference. Indeed, item 14 is simply a sheath; item 51 is an end cap; item 52 is an O-ring seal; and item 54 is an epoxy seal that seals between the housing and element 72. See, e.g., col. 3, lines 62-66.

The elements listed by the Examiner do not constitute a protective layer that seals all sides of the housing assembly.

A careful reading of Danna indicates clearly that the elements recited by the Examiner do not cooperate with one another to form a protective layer in the sense of claim 6. That is, the passage referred to above indicates that the epoxy end seal 54 seals at the front end of the barrel between the housing and the first element 72 of the lens array. Locations adjacent to the end cap 51, sheath 14, and around the general assembly, do not appear to be sealed, however. For example, the reference does not teach how a front end of the tubular body 49 would be sealed against a rear end of the end cap 51. Similarly, the text only indicates that the end cap 51 prevents the sheath from being rolled back, but in no way indicates, nor does the figure seem to suggest, that the two are sealed to one another. See, e.g., col. 3, lines 44-47.

Any protective layer of Danna would not surround exterior portions of the housing and seal all sides thereof.

Claim 6 has been amended by the present response to more clearly indicate that the protective layer recited in the claim seals all sides of the housing assembly. As noted above, Danna is certainly unconcerned with sealing a rear side of the housing. Indeed, the reference would suggest that sealing of the rear side of the housing (to the left in FIG. 2) is of little or no concern.

Accordingly, claim 6 and the claims depending therefrom are believed to be clearly allowable over Danna, and their reconsideration is requested.

Claim 12 and the claims depending therefrom.

By the present response, claim 12 has been amended to more particularly point out and distinctly claim that the protective layer coated on the surface of the detector seals all sides thereof. The issue of the protective layer and sealing of all of sides by the protective layer is addressed in detail above with regards to claim 6. Those remarks are hereby incorporated with respect to claim 12 in their entirety by reference. For the same reasons, claim 12 is believed to be clearly allowable over Danna, as are its dependent claims. Reconsideration and allowance of these claims are requested.

Claim 17 and the claims depending therefrom.

Claim 17 recites elements similar to those of claim 12, but in means-plus-function format. Claim 17 has been amended by the present response to indicate that the means for sealing the means for housing seal on all sides thereof. As regards the Danna device, as noted above with regards to the independent claims 6 and 12, Danna fails to teach or even suggest sealing on all sides of a detector housing. Accordingly, claim 17 and the claims depending therefrom are believed to be clearly allowable over the cited reference.

Dependent Claims

Applicants note that a number of the dependent claims, particularly claims relating to the materials and processes used for the protective layers, were rejected "out of hand" under 35 U.S.C. §103(a) as unpatentable over Danna. Applicants hereby traverse the rejection and stress that such treatment of the dependent claim features is improper. If the Examiner's position is that these elements of the invention are "well known", Applicants submit that the Examiner has effectively taken Official Notice of such. Applicants would then respectfully request that the Examiner, in accordance with MPEP §2133.04, cite competent references which, in combination with the teachings of Danna, would render these claims obvious. Applicants would furthermore request that the Examiner do so in a further non-Final Office Action such that they can be given a fair opportunity to address the rejection.

As regards the positions taken by the Examiner on these points, Applicants note that there would be no suggestion, teaching or motivation for modifying the Danna device in the manners submitted by the Examiner. For example, it is uncertain why one skilled in the art would coat the assemblies or sub-assemblies of Danna with a parylene coating, or any other coating for that matter. Danna provides significant teachings on how the endoscope is to be structured, and none of these would lead one to believe that any such coating is necessary or would even be particularly useful. At the very least, the Examiner must provide some motivation or teaching in the art for making the proposed modifications to the Danna endoscope. Absent any such teachings or motivations, the mere suppositions advanced by the Examiner cannot support a *prima facie* case of obviousness.

Conclusion

In view of the remarks and amendments set forth above, Applicants respectfully request allowance of the pending claims. If the Examiner believes that a

telephonic interview will help speed this application toward issuance, the Examiner is invited to contact the undersigned at the telephone number listed below.

Respectfully submitted,

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